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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/943,886	08/30/2001	Zhao Wu	016491-004000US	2075
20350	7590	06/16/2006	EXAMINER	
TOWNSEND AND TOWNSEND AND CREW, LLP TWO EMBARCADERO CENTER EIGHTH FLOOR SAN FRANCISCO, CA 94111-3834			HAN, CLEMENCE S	
			ART UNIT	PAPER NUMBER
			2616	

DATE MAILED: 06/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/943,886

Applicant(s)

WU ET AL.

Examiner

Clemence Han

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11 and 13-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11, 15 and 18-27 is/are rejected.
- 7) ☒ Claim(s) 13, 14, 16 and 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 13-16 are objected to because of the following informalities: These claims are depended on the canceled claim 12. The examiner understood them as depended on claim 11 in the following rejection. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 11, 15 and 18-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heuer (US 6,842,455) in view of Lyles (US 5,689,508).

Regarding to claim 11, Heuer teaches a system for multiplexing input data from a plurality of channels onto a selected one of a plurality of SONET/SDH frames having different sizes, comprising: a calendar 52 configured to selectively multiplex the input data received from the plurality of channels (Column 6 Line 21-28); a processor 56 configured to receive the multiplexed input data and rearrange the multiplexed input data onto the selected SONET/SDH frame using

virtual concatenation or contiguous concatenation or a combination of both (Column 6 Line 31-36); and a terminator 57 configured to terminate overhead bytes within the selected SONET/SDH frame (Column 6 Line 39-41). Heuer, however, does not teach explicitly the processor further comprising an input RAM configured to receive and output the multiplexed input data; a crossbar configured to receive and re-arrange the multiplexed input data outputted from the input RAM; an output RAM configured to receive the re-arranged multiplexed data from the crossbar; and a copy machine configured to control and coordinate operation of the input RAM, the crossbar and the output RAM. Lyles teaches the processor further comprising an input RAM 50 configured to receive and output the multiplexed input data; a crossbar 42, 44, 46 configured to receive and re-arrange the multiplexed input data outputted from the input RAM; an output RAM 45 configured to receive the re-arranged multiplexed data from the crossbar; and a copy machine 86 configured to control and coordinate operation of the input RAM, the crossbar and the output RAM. It would have been obvious to one skilled in the art to modify Heuer to have the details of the process as taught by Lyles in order to reduce contention (Column 6 Line 42).

Regarding to claim 15, Lyles teaches the input RAM comprises a plurality of memory banks (Column 6 Line 37-44).

Regarding to claim 18, Heuer teaches handling arbitrary virtual concatenation with STS-1 or STS-3c granularity (Column 1 Line 25-27).

Regarding to claim 19, Heuer teaches handling contiguous concatenation with STS-Nc capacity, where N is a multiple of 3 (Column 1 Line 39).

Regarding to claim 20, Heuer teaches handling non-standard virtual concatenation and one or more proprietary concatenation formats (Column 3 Line 8).

Regarding to claim 21, Heuer teaches handling mixed concatenation of one or more contiguous concatenation traffic and virtual concatenation traffic with STS-3c granularity (Column 3 Line 8 shows SDH case, see Column 1 Line 20-27 for SONET/SDH difference).

Regarding to claim 22, Heuer teaches implemented in a programmable logic device 50.

Regarding to claim 23, Heuer teaches receive and process the overhead data (Column 6 Line 27-28); and the system further comprising: a shifter 55 configured to redistribute the overhead data and the input data received from the plurality of channels before the overhead data and the input data are selectively directed by the calendar to the processor (Column 6 Line 27-38).

Regarding to claim 24, Heuer teaches handle one or more mixed concatenation including STS-I-Xv (Column 3 Line 8 shows SDH case, see Column 1 Line 20-27 for SONET/SDH difference).

Regarding to claim 25, Heuer teaches the overhead data terminated by the terminator 57 include H1, H2 and H3 bytes in line overhead and H4 byte in path overhead (SONET/SDH standard, see also Column 1 Line 61).

Regarding to claim 26, Heuer teaches a multi-frame indicator and a sequence number are inserted into the H4 byte in the path overhead (Column 6 Line 36-38).

Regarding to claim 27, Heuer teaches the different sizes of the plurality of SONET/SDH frames include STS-12, STS-48, STS-192 and STS-768 (Column 2 Line 3-4).

Allowable Subject Matter

4. Claim 13, 14, 16 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

5. Applicant's arguments with respect to claim 11 and 13-27 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to further show the state of the art with respect to the invention in general.

U.S. Patent 5,414,704 to Spinney

U.S. Patent 6,959,151 to Cotter et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clemence Han whose telephone number is (571) 272-3158. The examiner can normally be reached on Monday-Thursday 7 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

C. H.

Clemence Han
Examiner
Art Unit 2616

A handwritten signature in black ink, appearing to read 'Huy D. Vu', with a long horizontal stroke extending to the right.

HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800